UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/613,039	07/07/2003	Thomas Forest	0607 1455	5767

7590   07/02/2007

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EXAMINER
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ART UNIT	PAPER NUMBER
2611	

MAIL DATE	DELIVERY MODE
07/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/613,039	FOREST ET AL.
Office Action Summary	Examiner	Art Unit	
	Nader Bolourchi	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>07 July 2003</u>.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-17</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-17</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

     1.☒ Certified copies of the priority documents have been received.

     2.☐ Certified copies of the priority documents have been received in Application No. _____.

     3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>5/19/2006</u>.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Priority

1.   Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e)

or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

2.   Acknowledgment is made of applicant's claim for foreign priority filed in European

Patent Office on 4/16/2002 and Germany on 4/16/2002 under 35 U.S.C. 119(a)-(d).

Information Disclosure Statement

3.   The information disclosure statement (IDS) submitted on 5/19/2006 have been

considered and made of record by the examiner.

Specification

4.   The lengthy specification has not been checked to the extent necessary to

determine the presence of all possible minor errors. Applicant's cooperation is

requested in correcting any errors of which applicant may become aware in the

specification.

5.   The title of the invention is not descriptive. A new title is required that is clearly

indicative of the invention to which the claims are directed. It is suggested the title to be

replaced by "Method and bit stream decoding unit using majority voting", as it has

already being used in abstract and the specification.

Claim Objections

6.   Claim 1 and 9 are objected to because of the following informalities:

<u>Regarding claim 1,</u> it recites "positioning said detection window at certain positions on the bit stream in order to subtend certain samples with respective sample values", which phrase "in order to subtend certain samples with respective sample values" make it unclear and redundant. One ordinary skill in the art will recognize that positioning the detection window over the bit stream will result certain samples with respective sample value to be overlaid by the window. It is not clear what Applicant is trying to convey by the aforesaid redundant known fact in the claim.

Further clarification and appropriate correction is required.

<u>Regarding claim 9</u>, in line 2, replace phrase "in" with phrase - - on - -.

Claim Rejections - 35 USC § 112

Claim Rejections - 35 USC § 112, first paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7.   Claim 16 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the enablement requirement. The claim contains subject matter which was not

described in the specification in such a way as to enable one skilled in the art to which it

pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 16 is a single means claim. A single means claim, i.e., where a means recitation

does not appear in combination with another recited element of means, is subject to an

undue breadth rejection under **35 U.S.C. 112**, first paragraph. *In re Hyatt*, 708 F.2d 712,

714-715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered

every conceivable means for achieving the stated purpose was held <u>nonenabling</u> for the

scope of the claim because the specification disclosed at most only those means known

to the inventor.). When claims depend on a recited property, a fact situation comparable

to *Hyatt* is possible, where the claim covers every conceivable structure (means) for

achieving the stated property (result) while the specification discloses at most only

those known to the inventor.

Claim Rejections - 35 USC § 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8.   Claims 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

Claims 1 recites: "b) positioning said detection window at <u>certain positions</u> on the bit

stream in order to subtend certain samples with respective sample values; c) applying a

majority voting to said sample values within said detection window;" (lines 4-7),

however, later phrase "d) decoding the bit stream in dependence on the results of step

c)" (lines 7) makes it vague and unclear. It is not clear how the whole bit stream is

decoded, while majority voting is used on sample values within detection window,

positioned <u>only</u> at certain position in bit stream. Is detection window is a sliding

window? If yes, why the disclosure is silent about it? If no, how the whole bit stream is

decoded?

Claims 2-8 are rejected due to their dependency to rejected claim 1.

Claims 7 recites: "the computer program is programmed to execute the method of claim

1" (line 3), which phrase "programmed" makes it vague and unclear. It is not clear from

the claim what the steps of program are, in order to carry the method of claim 1.

Claim 8 is rejected due to their dependency to rejected claim 7.

Claims 9 recites: "means for positioning a predefined detection window at certain

positions in the bit stream, the detection window being predefined to overlap a number

of samples, said detection window being positioned in such a way as to span certain

samples with respective sample values; means for applying majority voting to said

sample values contained within said detection window" (lines 2-7), however, later

phrase "means for decoding the bit stream in dependence on said majority voting" (lines

8-9) makes it vague and unclear. It is not clear how the whole bit stream is decoded,

while majority voting is used on sample values within detection window, positioned <u>only</u>

at certain position in bit stream. Is detection window is a sliding window? If yes, why the

disclosure is silent about it? If no, how the whole bit stream is decoded?

Claims 10-17 are rejected due to their dependency to rejected claim 9

<u>Claims 16 recites</u>: "A computing unit programmed for carrying out the method of claim

1" (line 1), which phrase "programmed" makes it vague and unclear. It is not clear from

the claim what the steps of program are, in order to carry the method of claim 1.

<u>Claims 17 recites</u>: "A data storage medium having machine encoded instructions for

executing the method of claim 1" (lines 1-2), which phrase "instructions" makes it vague

and unclear. It is not clear from the claim what the steps of instructions are, in order to

carry the method of claim 1.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter,
> or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

9.   Claims 7-8 and 16-17 rejected under 35 U.S.C. 101 because the claimed

invention is directed to non-statutory subject matter. Computer programs (as well as

program in a computing unit and instruction stored in a data storage medium) claimed

as computer listings per se, i.e., the descriptions or expressions of the programs, are

not physical "things." They are neither computer components nor statutory processes,

as they are not "acts" being performed. Such claimed computer programs do not define

any structural and functional interrelationships between the computer program and

other claimed elements of a computer, which permit the computer program's

functionality to be realized. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035. Since

a computer program is merely a set of instructions capable of being executed by a

computer, the computer program itself, without the computer-readable medium needed

to realize the computer program's functionality, is not a process and claim for a

computer program (as well as program in a computing unit and instruction stored in a

data storage medium) is treated as nonstatutory functional descriptive material.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form

the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public
> use or on sale in this country, more than one year prior to the date of application for patent in the United
> States.

10.   Claims 1, 4, 9, 12, and 15 are rejected under 35 U.S.C. 102(b) as being

anticipated by Hedberg (US 5,995,559).

Regarding claim 1, Hedberg discloses a method for bit stream decoding of a bit stream

having a number of consecutive samples (Fig. 3), the method comprising the steps of:

a) defining a detection window having a number of samples (Fig. 8; Fig. 9; col. 13: lines

13-23; Examiner notes that all signal processing operation in Fig. 3 is carried out by

proper manipulation of digital samples of a received signal as recited in col. 14: lines 34-

43); b) positioning said detection window at certain positions on the bit stream in order

to subtend certain samples with respective sample values (col. 12 lines 23-33;

positioning of the detection windows is done by the data message detector Fig. 3: 7 as

recited in col12: lines 31-33); c) applying a majority voting to said sample values within

said detection window (col. 3: lines 48-62; Fig. 7A); d) decoding the bit stream in

dependence on the results of step c) (col. 12: lines 14-22); and e) generating respective

bit values following step d) (col. 13: lines 24-43).

Regarding claim 4, Hedberg discloses as recited in rejection of claim 1 above. Hedberg

also discloses said detection window is centered on an expected center of a bit cell of

the bit stream to only overlap samples of said bit cell for detecting a bit value of said bit

cell (Fig, 8: 801, 802, 803, 804; col. 12: 23-29; Fig. 9; col. 12: lines 42-54)

Regarding claim 9, Hedberg discloses a device for decoding a bit stream having a

number of consecutive samples (transceiver in Fig. 3), the device comprising: means for

positioning a predefined detection window at certain positions in the bit stream (Fig, 8:

801, 802, 803, 804; col. 12: 23-29; Fig. 9; col. 12: lines 42-54), the detection window

being predefined to overlap a number of samples (Fig. 8; Fig. 9; col. 13: lines 13-23;

Examiner notes that all signal processing operation in Fig. 3 is carried out by proper

manipulation of digital samples of a received signal as recited in col. 14: lines 34-43),

said detection window being positioned in such a way as to span certain samples with

respective sample values (col. 12 lines 23-33; positioning of the detection windows is

done by the data message detector Fig. 3: 7 as recited in col12: lines 31-33); means for

applying majority voting to said sample values contained within said detection window

(col. 3: lines 48-62; Fig. 7A); means for decoding the bit stream in dependence on said

majority voting (col. 12: lines 14-22); and means for generating respective bit values in,

response to said decoding of the bit stream (col. 13: lines 24-43).

Regarding claim 12, Hedberg discloses as recited in rejection of claim 9 above.

Hedberg also discloses said detection window is centered on an expected center of a

bit cell of the bit stream to only overlap samples of said bit cell for detecting a bit value

of said bit cell (Fig, 8: 801, 802, 803, 804; col. 12: 23-29; Fig. 9; col. 12: lines 42-54)

Regarding claim 15, Hedberg discloses as recited in rejection of claim 9 above.

Hedberg also discloses one of a number of nodes of a communication system (Fig. 3),

the nodes being connected to a communication media for transmitting data among the

nodes (Fig. 3: 16), the data being transmitted across the communication media in the

form of a bit stream (output of 16 in Fig. 3), the bit stream comprising a number of

consecutive samples (Examiner notes that all signal processing operation in Fig. 3 is

carried out by proper manipulation of digital samples of a received signal as recited in

col. 14: lines 34-43), wherein the node comprises a bit stream decoding device (Fig. 3:

17) according to claim 9 for decoding the bit stream received from the communication

media.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art
> are such that the subject matter as a whole would have been obvious at the time the invention was made to
> a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be
> negatived by the manner in which the invention was made.

11.   In considering patentability of the claims under 35 U.S.C. 103(a), the examiner

presumes that the subject matter of the various claims was commonly owned at the

time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and

invention dates of each claim that was not commonly owned at the time a later invention

was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and

potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12.   Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hedberg in view of Admitted Prior Art.

Regarding claim 2, Hedberg discloses as recited in rejection of claim 1 above. Hedberg is silent about number of sample being odd number.

Admitted Prior Art (Specification: page 3: line 2) discloses that the detection window can comprise any number of samples. Therefore, It would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teaching of Hedberg and admitted prior art for the purpose of having detection window with odd or even number of sample as suggested by Admitted Prior Art (Specification: page 3: line 2).

Regarding claim 10, Hedberg discloses as recited in rejection of claim 9 above. Hedberg is silent about number of sample being odd number.

Admitted Prior Art (Specification: page 3: line 2) discloses that the detection window can comprise any number of samples. Therefore, It would have been obvious to one of ordinary skill in the art, at the time the invention was made to combine the teaching of Hedberg and admitted prior art for the purpose of having detection window with odd or even number of sample as suggested by Admitted Prior Art (Specification: page 3: line 2).

13.   Claims 5, 7-8, 13, and 16-17 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Hedberg in view of what is old and well known.

Regarding claim 5, Hedberg discloses as recited in rejection of claim 4 above. Hedberg

is silent about filtering glitches or spikes in the bit stream. However, filtering out glitches

or spikes in a bit stream is notoriously old in the subject matter area of the invention.

(Kim et al. US 6,994,884: Abstract, col. 2: lines 52-60). It would have been obvious to

include in Hedberg's bit stream decoding any old and well known filtering of glitches and

spikes, since it is used in that environment and would make Hedberg's bit stream

decoding more efficient.

Regarding claim 7, Hedberg discloses as recited in rejection of claim 1 above. Hedberg

is silent about computer program. However, using computer program to execute a

method is notoriously old in the subject matter area of the invention. It would have been

obvious to include in Hedberg's bit stream decoding any old and well known use of

computer program, since it is used in that environment and would provide Hedberg's bit

stream decoding with more efficient means of implementation.

Regarding claim 8, Hedberg discloses as recited in rejection of claim 7 above. Hedberg

is silent about use of Ram, Rom, or flash-memory to store the program. However, use

of Ram, Rom, or flash-memory to store a program is notoriously old in the subject

matter area of the invention. It would have been obvious to include in Hedberg's bit stream decoding any old and well known use of Ram, Rom, or flash-memory to store the program, since it is used in that environment and would provide Hedberg's bit stream decoding with more efficient means for the program utilization.

Regarding claim 13, Hedberg discloses as recited in rejection of claim 12 above. Hedberg is silent about filtering glitches or spikes in the bit stream. However, filtering out glitches or spikes in a bit stream is notoriously old in the subject matter area of the invention. (Kim et al. US 6,994,884: Abstract, col. 2: lines 52-60). It would have been obvious to include in Hedberg's bit stream decoding any old and well known filtering of glitches and spikes, since it is used in that environment and would make Hedberg's bit stream decoding more efficient.

Regarding claim 16, Hedberg discloses as recited in rejection of claim 1 above. Hedberg is silent about computing unit. However, using computing unit such as DSP and microprocessor to execute a method is notoriously old in the subject matter area of the invention. It would have been obvious to include in Hedberg's bit stream decoding any old and well known use of computing unit such as DSP and microprocessor, since it is used in that environment and would provide Hedberg's bit stream decoding with alternative means of implementation.

<u>Regarding claim 17,</u> Hedberg discloses as recited in rejection of claim 7 above.

Hedberg is silent about use of data storage medium having machine encoded

instructions. However, data storage medium having machine encoded instructions is

notoriously old in the subject matter area of the invention. It would have been obvious to

include in Hedberg's bit stream decoding any old and well known data storage medium

having machine encoded instructions, since it is used in that environment and would

provide Hedberg's bit stream decoding with more efficient means of implementation.

Duplicate Claim

14.   Applicant is advised that should claim 9 be found allowable, claim 15 will be

objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two

claims in an application are duplicates or else are so close in content that they both

cover the same thing, despite a slight difference in wording (the only difference is that

claim 9 refers to a device, while claim 15 refers to a node), it is proper after allowing one

claim to object to the other as being a substantial duplicate of the allowed claim. See

MPEP § 706.03(k).

Allowable Subject Matter

15. Claims 3, 6, 11, 14 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims.

Remarks

16.   No claim is allowed.

Conclusion

17.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure. Wilson et al. (US 6,118,603); Kunkel (US 6,308,068); and

Sutterlin et al. (US 6,473,450).

Contact Information

18.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nader Bolourchi whose telephone number is (571) 272-

8064. The examiner can normally be reached on M-F 8:30 to 4:30.

19.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, David. C. Payne can be reached on (571) 272-3024. The fax phone number

for the organization where this application or proceeding is assigned is (571) 273-8300.

20.   Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at (866) 217-9197 (toll-free).

Nader Bolourchi
6/21/2007
Art Unit 2611

David Payne

DAVID C. PAYNE
SUPERVISORY PATENT EXAMINER